Claims:

I claim:

1. A communication filter comprising:

a dielectric block having a first and a second end portion and a central portion therebetween;

a first and a second antenna coupling pad on the block;

a transmitter coupling pad on the block;

a receiver coupling pad on the block;

a plurality of coupled resonators extending through the block;

a trap resonator extending through the block and located in the central portion between the first and the second antenna coupling pads,

the trap resonator providing attenuation outside of a desired passband.

2. The communication filter according to claim 1 further comprising a second trap resonator extending through the block and located at an end portion.

3. An antenna duplexer comprising:

a dielectric block having three sets of paired opposed sides and a central portion;

a first and a second antenna coupling electrode on the elongate ceramic block in the central portion;

a first section extending between the first antenna electrode and a first end of the block;

a second section extending between the second antenna electrode and a second end of the block, the second end opposing the first end,

each section having a plurality of coupled resonators extending between one set of the paired opposed sides;

a trap resonator in the central portion; and

a relatively expansive metallized area located on the block for providing a reference potential.

4. A communication signal filter comprising:

a core of dielectric material having a first end, a second end, a top

surface, a bottom surface and defining a plurality of through-holes each extending between an opening on the top surface and an opening on the bottom surface;

a plurality of metallized areas on the core including,

a first input-output coupling area,

a second input-output coupling area spaced apart from the first input-output coupling area along a length of the core between the first and second ends,

a third input-output coupling area positioned between the first input-output coupling area and the first end,

a fourth input-output coupling area positioned between the second input-output coupling area and the second end,

wherein the core and the plurality of metallized areas together define at least one through-hole resonator positioned between the first input-output coupling area and the second input-output coupling area.

5. A communication signal filter comprising:

a core of dielectric material having a first end, a second end, a top surface, a bottom surface and defining a plurality of through-holes each extending between an opening on the top surface and an opening on the bottom surface;

a plurality of metallized areas on the core including,

a receiver coupling area,

a transmitter coupling area spaced apart from the receiver coupling area along a length of the core between the first and second ends,

a first antenna coupling area positioned between the receiver coupling area and the transmitter coupling area,

a second antenna coupling area positioned between the receiver coupling area and the transmitter coupling area,

a relatively expansive area,

wherein at least one of the plurality of through-holes is positioned

between the first and second antenna coupling areas to define a trap resonator.

6. The filter of claim 5 further comprising a decoupler between the first and second antenna coupling areas.

7. The filter of claim 6 further wherein the decoupler is one of the plurality of through-holes, said one having a metallized sidewall conductively connected to the expansive area at both the top surface and the bottom surface.

8. The filter of claim 5 wherein at least one of the plurality of through-holes is positioned between the first end of the block and the transmitter coupling area to define a trap resonator.

9. The filter of claim 5 wherein at least one of the plurality of through-holes is positioned between the second end of the block and the receiver coupling area to define a trap resonator.

10. The filter of claim 5 having four trap resonators.

11. A communication signal filter comprising:

a dielectric core having a series of through-holes and bearing a pattern of metallized and unmetallized areas, the dielectric core having first and second opposing outer portions and a central portion therebetween;

the dielectric core and the pattern together defining at least two signal paths each including an input coupling, an output coupling and a series of through-hole resonators therebetween,

the dielectric core and pattern together further defining a through-hole resonator in the central portion and outside the two signal paths.

12. In a communication filter including a plurality of coaxial resonators formed in a monoblock having through-holes and a metallization pattern, the monoblock having first and second ends and a central portion therebetween, the improvement which comprises:

a first and a second input-output coupling area in the central portion; and

a trap resonator between the first and the second coupling areas.

13. In a communication filter including a plurality of coaxial resonators formed in a monoblock having through-holes and a metallization pattern, the monoblock having first and second ends and a central portion, the improvement which comprises:

a first and a second antenna coupling metallized area in the central portion;

a decoupler between the first and the second antenna coupling areas;

and a trap resonator between one of the first and the second antenna coupling areas in the central portion and the decoupler.